

PATENT
Attorney Docket No. 7040.0008.02

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re Application of:)
Marco NAHMIAS NANNI et al.)
Serial No.: Not yet assigned) Group Art Unit: 1733
Filed: March 12, 2001) Examiner: Not yet assigned
For: LOW-RUNNING-)
TEMPERATURE TYRE)

Assistant Commissioner for Patents
Washington, DC 20231

Sir:

PRELIMINARY REMARKS

Applicants submit these Preliminary Remarks to advance the prosecution of this patent application.

Substitute Specification

The specification filed herewith is substantially similar to the Substitute Specification in parent U.S. Patent Application No. 09/472,019, filed December 27, 1999, and whose entry was approved by the Examiner in an Office Action dated March 23, 2000.

The application filed herewith includes claims 26-46.

Figure 6

The drawings filed herewith include Figs. 1-6. Fig. 6 was filed in parent U.S. Patent Application No. 09/472,019. Fig. 6 was approved based in part upon papers including: a Request for Approval of Drawing Change, a Petition Under 37 C.F.R. § 1.84(b)(2), and a Declaration by Paolo Guella, all filed June 23, 2000; and a Supplemental Declaration by Paolo

Guella, filed December 11, 2000. The Decision on Petition granting the Petition Under 37 C.F.R. § 1.84(b)(2) was mailed on January 24, 2001.

Terminal Disclaimer

Additionally, on December 11, 2000, Applicants filed a Terminal Disclaimer in parent U.S. Patent Application No. 09/472,019. The Examiner found the Terminal Disclaimer proper and had it recorded.

Cited References

References cited by the Examiner in parent U.S. Patent Application No. 09/472,019 include: European Patent Application Nos. 0,658,452 ("EP '452"), 0,732,229 ("EP '229"), 0,627,332 ("EP '332"), 0,105,822 ("EP '822"), and 0,681,931 ("EP '931"); U.S. Patent Nos. 5,536,348 to Chlebina et al. ("Chlebina"), 3,768,537 to Hess et al. ("Hess"), 5,225,011 to Takino et al. ("Takino"), and 4,319,620 to Knill ("Knill"); Japanese Patent Application No. 60-94804 ("JP '804"); and C.M. Blow, Rubber Technology and Manufacture ("Blow").

The originally filed specification, claims, abstract, and drawings fully support the specification, claims, abstract, and drawings filed herewith. No new matter was introduced.

EP '452

EP '452 discloses an antistatic tyre comprising a carcass, beads, at least one belt layer, and a tread. (EP '452, column 1, lines 1-11, and Figs. 1 and 2.) The tread band has a low carbon-black content and high silicon (or other non-conductive filler) content. (Id., column 3, lines 33-36.) The tyre further comprises at least one conductive insert containing carbon-black reinforcing fillers extending through the whole tread-band thickness. (Id., column 3, lines 38-53; column 4, lines 32-34; and Figs. 1 and 2.) The at least one conductive insert increases the electric conductivity between the tyre and the ground. (Id., column 3, lines 53-58.)

EP '452 does not disclose including white filler in the conductive insert containing carbon-black reinforcing fillers. Additionally, the tyre design of EP '452 does not contemplate an outer top cap layer as its at least one conductive insert. Instead, the at least one conductive insert of EP '452 passes through the whole tread band thickness such that it performs the function of a conductive connection between the ground and one of the belt layers or the carcass ply, or a sidewall, or another sufficiently conductive part of the tyre. (Id., column 3, lines 33-46; and Figs. 1 and 2.)

Further, the development of tyres whose tread band is made of a blend in which carbon black is mostly or completely replaced by, for example, silicon-based reinforcing fillers, provided tyres with remarkably reduced rolling resistance and better hysteretic features. (Id., column 2, lines 40-56.) But, these same tyres caused an undesirable increase in the electrical resistance of the tyres and, thus, an undesirable increase in electrostatic charge build-up on the vehicles on which these tyres are mounted. (Id., column 2, line 57-column 3, line 32.) EP '452 discloses an invention that solves this specific problem, that of reducing the electrical resistance of these types of tyres and, thus, reducing electrostatic build-up on the vehicles on which these tyres are mounted.

Therefore, EP '452 does not disclose *at least* a tread band comprising at least first and second circumferential axially-contiguous portions, wherein the first portion is formed of a first composition comprising a reinforcing filler having at least 40%-by-weight carbon black, the second portion is formed of a second composition comprising a reinforcing filler having at least 20%-by-weight white filler, and the first composition is different from the second composition, wherein the second composition further comprises an amount of white filler greater than an amount of white filler in the first composition, a difference between the two amounts of white

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filler being at least equal to 20% of the amount of white filler in the second composition, wherein a difference of compositions between the at least first and second portions achieves a tyre operating temperature lower than a reference temperature.

EP '229

EP '229 discloses a tyre comprising a carcass, a tread, and an outer tread cap. (EP '229, page 2, lines 5-8.) The carcass is carbon-black reinforced. (Id., page 2, lines 5-8.) The tread contains quantitative silica reinforcement and a minimal amount of carbon black. (Id.) As correctly pointed out by the Examiner, the outer tread cap is disclosed to be “primarily carbon black reinforced rubber composition.” (Id., page 6, lines 11-15.)

Thus, a proper understanding of EP '229 requires determining what the patentee means by the term “carbon black reinforced.” Fortunately, EP '229 carefully defines the term “carbon black’ reinforced” as “the rubber components of the *tire carcass rubber* which are carbon black reinforced, contain a quantitative amount of carbon black reinforcement, normally at least 25 phr, and a minimal amount, if any, of silica and the weight ratio of carbon black to silica is at least 5/1.” (Id., page 2, line 58-page 3, line 2.) (Emphasis added.) Thus, the *patentee’s own words exclude the outer tread cap*, the key element of EP '229, from this definition.

Additionally, Applicants note that the defined weight ratio of carbon black to silica of at least 5/1 in EP '229 means that the resulting reinforcing filler would have *at most* 16.67%-by-weight silica.

However, EP '229 does disclose *separately* that the outer top cap layer is composed of rubber containing a quantitative amount of carbon black and minimal, if any, silica. (Id., page 2, lines 5-8 and 9-16.) This description specifies no value for the minimal, if any, silica. Further, other descriptions of the outer tread cap do not mention silica, although they do describe the

carbon black in some detail. (See, e.g., Id., page 4, lines 8-12 and 43-47; page 4, line 36-page 5, line 1; page 5, lines 11-20; and page 7, lines 28-30.)

Therefore, EP '229 does not disclose *at least* a tread band comprising at least first and second circumferential axially-contiguous portions, wherein the first portion is formed of a first composition comprising a reinforcing filler having at least 40%-by-weight carbon black, the second portion is formed of a second composition comprising a reinforcing filler having at least 20%-by-weight white filler, and the first composition is different from the second composition, wherein the second composition further comprises an amount of white filler greater than an amount of white filler in the first composition, a difference between the two amounts of white filler being at least equal to 20% of the amount of white filler in the second composition, wherein a difference of compositions between the at least first and second portions achieves a tyre operating temperature lower than a reference temperature.

EP '332

EP '332 discloses a tyre for motor vehicles provided with a tread for producing a low rolling noise due to its tread pattern. (EP '332, column 1, lines 1-9.) EP '332 does not disclose *at least* a tread band comprising at least first and second circumferential axially-contiguous portions, wherein the first portion is formed of a first composition comprising a reinforcing filler having at least 40%-by-weight carbon black, the second portion is formed of a second composition comprising a reinforcing filler having at least 20%-by-weight white filler, and the first composition is different from the second composition, wherein the second composition further comprises an amount of white filler greater than an amount of white filler in the first composition, a difference between the two amounts of white filler being at least equal to 20% of the amount of white filler in the second composition, wherein a difference of compositions

between the at least first and second portions achieves a tyre operating temperature lower than a reference temperature.

EP '822

EP '822 discloses a tyre comprising a carcass and a tread, "said tread having at least an inner layer having good heat resistant properties; said tread having at least an outer layer having good wear, cut and tear resistant properties; and wherein said tread has from 3 to 10 layers."

(EP '822, page 2, lines 17-21.) Each succeeding layer is located radially outward of the layer preceding it. (Id., page 3, lines 16-18, and Figs. 1 and 2.) Because of this multiple-layered construction, any individual layer with a significantly reduced carbon black content could promote rather than reduce electrostatic charge build-up on vehicles. Thus, EP '822 does not disclose *at least* a tread band comprising at least first and second circumferential axially-contiguous portions, wherein the first portion is formed of a first composition comprising a reinforcing filler having at least 40%-by-weight carbon black, the second portion is formed of a second composition comprising a reinforcing filler having at least 20%-by-weight white filler, and the first composition is different from the second composition, wherein the second composition further comprises an amount of white filler greater than an amount of white filler in the first composition, a difference between the two amounts of white filler being at least equal to 20% of the amount of white filler in the second composition, wherein a difference of compositions between the at least first and second portions achieves a tyre operating temperature lower than a reference temperature.

EP '931

EP '931 discloses tyre treads which are electrically conducting, including those reinforced by silica. (EP '931, page 2, lines 1-2.) In part because EP '931 focuses on physical

arrangements related to conducting strips, its disclosure regarding the compositions are substantially limited to an electrically-conducting composition comprising 80 phr of carbon black and no silica, and an electrically-resistive composition comprising 80 phr of silica and no carbon black. Thus, EP '931 does not disclose *at least* a tread band comprising at least first and second circumferential axially-contiguous portions, wherein the first portion is formed of a first composition comprising a reinforcing filler having at least 40%-by-weight carbon black, the second portion is formed of a second composition comprising a reinforcing filler having at least 20%-by-weight white filler, and the first composition is different from the second composition, wherein the second composition further comprises an amount of white filler greater than an amount of white filler in the first composition, a difference between the two amounts of white filler being at least equal to 20% of the amount of white filler in the second composition, wherein a difference of compositions between the at least first and second portions achieves a tyre operating temperature lower than a reference temperature.

Chlebina

Chlebina discloses a method for recapping tyres. (Chlebina, column 1, lines 7-13.) Chlebina does not disclose *at least* a tread band comprising at least first and second circumferential axially-contiguous portions, wherein the first portion is formed of a first composition comprising a reinforcing filler having at least 40%-by-weight carbon black, the second portion is formed of a second composition comprising a reinforcing filler having at least 20%-by-weight white filler, and the first composition is different from the second composition, wherein the second composition further comprises an amount of white filler greater than an amount of white filler in the first composition, a difference between the two amounts of white filler being at least equal to 20% of the amount of white filler in the second composition, wherein

a difference of compositions between the at least first and second portions achieves a tyre operating temperature lower than a reference temperature.

Hess

Hess discloses chemical compositions of silica-reinforced rubber tyres. (Hess, column 1, lines 7-10 and 18-28.) Hess does not disclose *at least* a tread band comprising at least first and second circumferential axially-contiguous portions, wherein the first portion is formed of a first composition comprising a reinforcing filler having at least 40%-by-weight carbon black, the second portion is formed of a second composition comprising a reinforcing filler having at least 20%-by-weight white filler, and the first composition is different from the second composition, wherein the second composition further comprises an amount of white filler greater than an amount of white filler in the first composition, a difference between the two amounts of white filler being at least equal to 20% of the amount of white filler in the second composition, wherein a difference of compositions between the at least first and second portions achieves a tyre operating temperature lower than a reference temperature.

JP '804

JP '804 discloses a motorcycle tyre using different tread rubber for the center portion of the tread (to improve fuel consumption) from the shoulder portion of the tread (to improve traction). (JP '804, Purpose and Constitution.) JP '804 does not appear to disclose *at least* a tread band comprising at least first and second circumferential axially-contiguous portions, wherein the first portion is formed of a first composition comprising a reinforcing filler having at least 40%-by-weight carbon black, the second portion is formed of a second composition comprising a reinforcing filler having at least 20%-by-weight white filler, and the first composition is different from the second composition, wherein the second composition further

comprises an amount of white filler greater than an amount of white filler in the first composition, a difference between the two amounts of white filler being at least equal to 20% of the amount of white filler in the second composition, wherein a difference of compositions between the at least first and second portions achieves a tyre operating temperature lower than a reference temperature.

Independent Claims

Applicants respectfully submit that none of the cited references, including EP '452, EP '229, EP '332, EP '822, and EP '931; Chlebina, Hess, Takino, and Knill; JP '804; and Blow; nor any other art of record, either alone or in any proper combination, teaches, discloses, or suggests Applicants' claimed invention as claimed in independent claims 26, 27, and 42-46.

Dependent Claims

Applicants respectfully submit that none of the cited references, including EP '452, EP '229, EP '332, EP '822, and EP '931; Chlebina, Hess, Takino, and Knill; JP '804; and Blow; nor any other art of record, either alone or in any proper combination, teaches, discloses, or suggests Applicants' claimed invention as claimed in dependent claims 28-41, in particular due to the dependency of claims 28-41 from independent claim 27 or claims dependent therefrom.

Summary

In summary, Applicants submit that none of the cited references, including EP '452, EP '229, EP '332, EP '822, and EP '931; Chlebina, Hess, Takino, and Knill; JP '804; and Blow; nor any other art of record, either alone or in any proper combination, teaches, discloses, or suggests Applicants' claimed invention.

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Please grant any extensions of time required to enter these Preliminary Remarks and charge any additional required fees to our Deposit Account No. 06-0916.

Respectfully submitted,

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Dated: March 12, 2001

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